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[REDACTED] EXAMINER

MENBERU, BENIYAM

[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

2625

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Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                 |               |
|------------------------------|-----------------|---------------|
| <b>Office Action Summary</b> | Application No. | Applicant(s)  |
|                              | 09/835,163      | HUDSON ET AL. |
|                              | Examiner        | Art Unit      |
|                              | Beniyam Menberu | 2625          |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 21 March 2006.  
 2a) This action is FINAL. 2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1,3-14 and 22 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,3-14 and 22 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 31, 2006 has been entered.

***Response to Arguments***

2. Applicant's arguments, see Remarks, filed January 31, 2006, with respect to the rejection(s) of claim(s) 1 under U.S. Patent No. 6549654 to Kumada in view of U.S. Patent No. 5668636 to Beach et al and claim 2 under U.S. Patent No. 6549654 to Kumada in view of U.S. Patent No. 5668636 to Beach et al further in view of U.S. Patent No 5508826 to Lloyd et al have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent No. 6999200 to Shiraishi and U.S. Patent No. 6922266 to Hiramatsu.

***Claim Objections***

3. Claim 1 is objected to because of the following informalities: On line 8, "rending rendering" should be "rendering". Appropriate correction is required.
4. Claim 22 is objected to because of the following informalities: On line 16, "rending rendering" should be "rendering". Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
6. Claims 1 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6549654 to Kumada in view of U.S. Patent No. 6999200 to Shiraishi.

Regarding claim 1, Kumada discloses a method for selecting a color map for use in printing a document, comprising:  
obtaining color space information about the document (Figure 25, reference S1101; column 10, lines 13-28);

obtaining at least two color maps, the at least two color maps representing device colors of one or more candidate printer (column 11, lines 42-45, lines 53-56, lines 65-67); and

determining which of the at least two color maps will result in a printed document that is more consistent with the color space information (column 11, lines 28-67; column 12, lines 1-13; column 13, lines 56-67; column 14, lines 1-50) and a desired rendering intent (column 9, lines 64-67; column 10, lines 1-3, lines 44-67; column 11, lines 1-10; Figure 23, reference s1104, s1107, s1105, s1108, s1106). However Kumada does not disclose color map determination based on a desired rendering intent and wherein the at least two color maps are derived from color information obtained by sensors in a print path of the one or more candidate printer.

Shiraishi discloses wherein the at least two color maps are derived from color information obtained by sensors in a print path of the one or more candidate printer (column 2, lines 20-25; column 3, lines 54-67).

Kumada and Shiraishi are combinable because they are in the similar problem area of color printing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the deriving of color maps using sensors as taught by Shiraishi with the system of Kumada to implement printer based color maps generation.

The motivation to combine the reference is clear because the data obtained from the sensors are used to create profile used by the printing system for color correction (column 2, lines 10-14; column 3, lines 54-67).

Regarding claim 10, Kumada in view of Shiraishi teach all the limitations of claim

1. Further Kumada discloses a method of claim 1, additionally comprising: providing a preferences interface to an author, whereby the author may indicate a preferred rendering intent to constrain the determining step (Kumada: column 9, lines 64-67; column 10, lines 1-3; Figure 23).

7. Claims 3, 4, 5, 6 and 7 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6549654 to Kumada in view of U.S. Patent No. 6999200 to Shiraishi further in view of U.S. Patent No. 6268930 to Ohta et al.

Regarding claim 3, Kumada in view of Shiraishi teaches all the limitations of claim 1. However Kumada in view of Shiraishi does not disclose a method of claim 1, wherein the determining step comprises: analyzing a boundary of each color map; and performing a best-fit analysis with respect to the color space information.

Ohta et al discloses a method of claim 1, wherein the determining step comprises: analyzing a boundary of each color map (column 5, lines 9-20); and performing a best-fit analysis with respect to the color space information (Ohta et al disclose a system that determines whether input image data is within gamut of output device (column 4, lines 50-60).).

Kumada, Shiraishi, and Ohta et al are combinable because they are in the similar problem area of color printing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of best-fit analysis as taught by Ohta et al with the

system of Kumada in view of Shiraishi to implement color printing system which selects the optimum printer based on input color document.

The motivation to combine the reference is clear because by using the system of Ohta et al, the optimum printer which covers the gamut of the color document can be utilized for printing.

Regarding claim 4, Kumada in view of Shiraishi further in view of Ohta et al teach all the limitations of claim 3. Further Ohta et al disclose a method of claim 3, wherein best-fit analysis comprises mean and maximum difference calculations on boundaries of a color space consistent with the color space information and a color space associated with each of the at least two color maps (column 17, lines 5-13; column 19, lines 15-38; Figure 26-27).

Regarding claim 5, Kumada in view of Shiraishi further in view of Ohta et al teach all the limitations of claim 3. Further Ohta et al disclose a method of claim 3, wherein best-fit analysis is based on calculating and comparing volumes of a color space associated with the document and of a color space associated with each of the color maps (Ohta et al disclose the use of polyhedron to determine whether image signals are within gamut of output device where the polyhedron is a 3-dimensional figure representing volume of the gamut of output device (column 5, lines 9-21)).

Regarding claim 6, Kumada in view of Shiraishi further in view of Ohta et al teach all the limitations of claim 3. Further Ohta et al disclose a method of claim 3, wherein best-fit analysis is based on determining a percentage of colors used by the document contained within each of the at least two color maps (Ohta et al disclose a counting

method for counting pixels that are outside gamut of printing device (column 4, lines 56-61). The count value can be used to determine percentage of pixels outside gamut of printing device.).

Regarding claim 7, Kumada in view of Shiraishi further in view of Ohta et al teach all the limitations of claim 3. Further Ohta et al disclose a method of claim 3, wherein best-fit analysis is based on determining the percentage of the area of the document associated with colors contained within each of the color maps (Ohta et al disclose a counting method for counting pixels that are outside gamut of printing device (column 4, lines 56-61). Since pixels are representative of an area of document image space, knowing number of pixels outside gamut of printing device can give indication of area coverage of document image space within gamut of printing device.).

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6549654 to Kumada in view of U.S. Patent No. 6999200 to Shiraishi further in view of U.S. Patent No. 6646762 to Balasubramanian et al.

Regarding claim 8, Kumada in view of Shiraishi teaches all the limitations of claim 1. However Kumada in view of Shiraishi does not disclose a method of claim 1, additionally comprising: generating a custom gamut mapping.

Balasubramanian et al discloses a method for generating a custom gamut mapping (Figure 6, reference G1; column 5, lines 33-36).

Kumada, Shiraishi, and Balasubramanian et al are combinable because they are in the similar problem area of color printing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the gamut mapping function of Balasubramanian et al in the system of Kumada in view of Shiraishi to perform gamut mapping for out of gamut colors.

The motivation to combine the reference is clear because if colors are out of range for a printer gamut it is necessary to perform mapping to bring the colors within range of the printer's gamut.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6549654 to Kumada in view of U.S. Patent No. 6999200 to Shiraishi further in view of U.S. Patent No. 6757071 to Goodman et al.

Regarding claim 9, Kumada in view of Shiraishi teaches all the limitations of claim 1. However, Kumada in view of Shiraishi does not disclose a method of claim 1, additionally comprising: previewing an approximation of a printed appearance of the document based on at least one of the at least two color maps.

Goodman et al disclose a method of claim 1, additionally comprising: previewing an approximation of a printed appearance of the document based on at least one of the at least two color maps (column 4, lines 49-54).

Kumada, Shiraishi, and Goodman et al are combinable because they are in the similar problem area of color printing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the preview method of Goodman et al with the color printing

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method taught by Kumada in view of Shiraishi to implement a method for previewing color documents before printing.

The motivation to combine the reference is clear because it is convenient to have a method for previewing a document before it is printed to avoid unnecessary printing.

10. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6549654 to Kumada in view of U.S. Patent No. 6999200 to Shiraishi further in view of U.S. Patent No. 5806081 to Swen et al.

Regarding claim 11, Kumada in view of Shiraishi teaches all the limitations of claim 1. However Kumada in view of Shiraishi does not disclose a method of claim 1, wherein the desired rendering intent is based on an absolute colorimetric.

Swen et al disclose a method of claim 1, wherein the desired rendering intent is based on an absolute colorimetric (column 8, lines 52-54).

Kumada, Shiraishi, and Swen et al are combinable because they are in the similar problem area of color printing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the option of having a colorimetric rendering intent as taught by Swen et al into the system of Kumada in view of Shiraishi to implement a versatile color printing system.

The motivation to combine the reference is clear because it is convenient for the user to have option on how to present a color document at an output device such as a printer.

Regarding claim 12, Kumada in view of Shiraishi teaches all the limitations of claim 1. Further Swen et al disclose a method where in desired the rendering intent is based on a perceptual rendering intent (column 8, lines 52-54).

11. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6549654 to Kumada in view of U.S. Patent No. 6999200 to Shiraishi further in view of U.S. Patent No. 6693718 to Takaoka.

Regarding claim 13, Kumada in view of Shiraishi teaches all the limitations of claim 1. However Kumada in view of Shiraishi does not disclose a method of claim 1, additionally comprising locating the at least two color maps on a print server.

Takaoka discloses a method of claim 1, additionally comprising locating the at least two color maps on a print server (column 9, lines 16-20, lines 24-27; Figure 9).

Takaoka and Kumada in view of Shiraishi are combinable because they are in the similar problem area of color printing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of providing print profiles on servers as taught by Takaoka into the system of Kumada in view of Shiraishi to provide for color printing over a network.

The motivation to combine the reference is clear because Takaoka teaches to use a server to maintain the device profiles due to changes in the device characteristics (column 9, lines 14-19).

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12. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6549654 to Kumada in view of U.S. Patent No. 6999200 to Shiraishi further in view of U.S. Patent No. 6633400 to Sasaki et al.

Regarding claim 14, Kumada in view of Shiraishi teaches all the limitations of claim 1. However Kumada in view of Shiraishi does not disclose a method of claim 1, additionally comprising locating the at least two color maps on individual printers.

Sasaki et al disclose a method of claim 1, additionally comprising locating the at least two color maps on individual printers (column 8, lines 20-27).

Kumada, Shiraishi, and Sasaki et al are combinable because they are in the similar problem area of color printing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the property data storing method (column 8, lines 20-22) of Sasaki et al into the system of Kumada in view of Shiraishi to store print profiles on printers.

The motivation to combine the reference is clear because if a network printer is to be used and the printer is far away from the server, print profile changes can be made locally to the printer instead of at where the server is located.

13. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6549654 to Kumada in view of U.S. Patent No. 6922266 to Hiramatsu further in view of U.S. Patent No. 6999200 to Shiraishi.

Regarding claim 22, Kumada discloses a method of printing a color document over a network (column 5, lines 1-29), comprising:

providing color space information about the document (Figure 25, reference S1101; column 10, lines 13-28);

determining, based upon

the color space information about the document;

the first data (column 11, lines 42-45);

the second data (column 11, lines 53-56); and

a desired rendering intent (column 9, lines 64-67; column 10, lines 1-3, lines 44-67; column 11, lines 1-10; Figure 23, reference s1104, s1107, s1105, s1108, s1106), which of the first networked printer or second networked printer will provide a better match between the color space of a document and the printer color gamut (column 11, lines 28-67; column 12, lines 1-13; column 13, lines 56-67; column 14, lines 1-50);

selecting the printer that provides the better match; and

printing the document on the selected printer (column 6, lines 40-46). However Kumada does not disclose :

a) from a first networked printer, acquiring first data over the network representative of the color gamut of the first networked printer, the first data derived from sensors monitoring the paper path of the first networked printer;

b) from a second networked printer, acquiring second data over the network representative of the color gamut of the second networked printer, said second data being derived from sensors monitoring the paper path of the second networked printer;

Hiramatsu discloses:

- a) from a first networked printer, acquiring first data over the network representative of the color gamut of the first networked printer and
- b) from a second networked printer, acquiring second data over the network representative of the color gamut of the second networked printer (column 7, lines 23-32, lines 41-48; column 8, lines 9-17).

Shiraishi discloses the data derived from sensors monitoring the paper path of the printer (column 2, lines 20-25; column 3, lines 54-67).

Kumada, Hiramatsu, and Shiraishi are combinable because they are in the similar problem area of color printing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the

The motivation to combine the reference is clear because the data obtained from the sensors are used to create profile used by the printing system for color correction (Kumada: column 2, lines 10-14; column 3, lines 54-67) and Hiramatsu teaches that proper color matching can be achieved for the system (column 8, lines 9-32).

#### ***Other Prior Art Cited***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6963411 to Billow et al disclose computer program for printer optimization.

U.S. Patent No. 7027187 to Zuber disclose method for the modification of rendering output for printing.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beniyam Menberu whose telephone number is (571) 272-7465. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams can be reached on (571) 272-7471. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is (571) 272-2600. The group receptionist number for TC 2600 is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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***Patent Examiner***

Beniyam Menberu

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05/01/2006

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